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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,385	02/27/2004	Paul Sabin	58629 (47171)	4938
21874	7590	02/04/2005	EXAMINER	
EDWARDS & ANGELL, LLP			CANTELMO, GREGG	
P.O. BOX 55874			ART UNIT	
BOSTON, MA 02205			PAPER NUMBER	

1745

DATE MAILED: 02/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/789,385

Applicant(s)

SABIN ET AL.

Examiner

Gregg Cantelmo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 August 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## **1 DETAILED ACTION**

### ***Priority***

1. Applicant's claim to U.S. Provisional Application Serial No. 60/450,817 filed February 27, 2003 is acknowledged.

### ***Information Disclosure Statement***

2. No IDS appears to have been filed with the application prior to this office action.
3. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered. See page 5, for example, wherein the specification recites numerous prior art references.

### ***Drawings***

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: page 16 of the specification refers to Fig. 6 and particular reference characters however a review of Fig. 6 fails to show any reference characters therein. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should

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be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the sealant encapsulating the periphery must be shown or the feature(s) canceled from the claim(s). The specification does not appear to provide a clear description of the extent and manner which the encapsulation is arranged. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will

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be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

6. The use of the trademarks Silastic T2 (page 21, line 24) and Tygon and Teflon (page 16, line 28) have been noted in this application. They should be capitalized wherever it appears and be accompanied by the generic terminology. No new matter may be entered.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

7. The incorporation of essential material in the specification by reference to a foreign application or patent, or to a publication is improper. Applicant is required to amend the disclosure to include the material incorporated by reference. The amendment must be accompanied by an affidavit or declaration executed by the applicant, or a practitioner representing the applicant, stating that the amendatory material consists of the same material incorporated by reference in the referencing application. See *In re Hawkins*, 486 F.2d 569, 179 USPQ 157 (CCPA 1973); *In re Hawkins*, 486 F.2d 579, 179 USPQ 163 (CCPA 1973); and *In re Hawkins*, 486 F.2d 577, 179 USPQ 167 (CCPA 1973). See the following: page 5, lines 30-31; page 6, lines 11-12, 21-22 and 26-27.

***Claim Objections***

8. Claims 32-41 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend on a previous multiple dependent claim, in this case, claim 17 being the previous multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claim 32-41 have not been further treated on the merits.

***Claim Rejections - 35 USC § 112***

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 1-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claim 1 recites the limitations "the one or more MEA" in line 10 and "reductant external manifolds" in line 12. There is insufficient antecedent basis for these limitations in the claim. The claim has antecedent basis for a MEA, but does not have clear antecedent basis for "the one or more" MEA (Applicant is advised to delete the term "the one or more" to overcome this portion of the rejection). Further while the claim has antecedent basis for at least one reductant manifold, the term at claim 12 is unclear whether it intends to positively limit the claims to plural manifolds or should be commensurate with the initial recitation of the reductant manifold as being at least one reductant manifold. Applicant is advise to amend the term "reductant external manifolds" to – the at least one reductant external manifold". Applicant is also suggested to insert the

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term—the at least one—before the term “oxidant at line 12 as well to maintain consistency with the scope of the term established in lines 4 and 5 of claim 1;

b. Claim 9 recites the limitation “composite MEA” in line 1. There is insufficient antecedent basis for this limitation in the claim. Claim 1 recites and MEA but does not define what the term “composite MEA” includes. Applicant is advised to delete the term composite from claim 9 to overcome this rejection;

c. Claim 25 contains the trademark/trade name Tygon. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe a preferred manifold material and, accordingly, the identification/description is indefinite.

***Allowable Subject Matter***

11. Claim 1-41 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

The following is a statement of reasons for the indication of allowable subject matter: none of the prior art of record appears to teach, fairly suggest or render obvious

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the invention of claim 1. In particular: of the electrochemical cassette defined therein wherein the one or more MEA, oxidant flow field, reductant flow field, separator plate and external manifolds are assembled and encapsulated about the periphery thereof by a sealant. USPAT 4,476,197 (Herceg) discloses an SOFC having external manifolds wherein the system is completely encased in insulation layer 12. The reference does not appear to teach that layer 12 provides sealing nor does the reference teach of any specific materials for the insulation which could inherently provide sealing. WO 96/20509A discloses of an integrated external manifold assembly however these manifolds as well as the MEA, flow fields and separator plates are not encapsulated about the periphery by a sealant. USPAT 2002/0172852 discloses sealing however the manifolds shown therein are not external manifolds but internal manifolds. USPAT 6,689,504 ( ) discloses providing external manifolds to the stack sealing is provided by a gasket between the external manifolds and the stack and there is no teachings or suggestion of encapsulating the components of claim 1 by a sealant.

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USPAT 4,476,197 (Herceg) discloses an SOFC having external manifolds wherein the system is completely encased in insulation layer 12. The reference does not appear to teach that layer 12 provides sealing nor does the reference teach of any specific materials for the insulation which could inherently provide sealing. WO 96/20509A discloses of an integrated external manifold assembly however these manifolds as well as the MEA, flow fields and separator plates are not



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encapsulated about the periphery by a sealant. USPAT 2002/0172852 discloses sealing however the manifolds shown therein are not external manifolds but internal manifolds. USPAT 6,689,504 () discloses providing external manifolds to the stack sealing is provided by a gasket between the external manifolds and the stack and there is no teachings or suggestion of encapsulating the components of claim 1 by a sealant.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregg Cantelmo whose telephone number is (571) 272-1283. The examiner can normally be reached on Monday to Thursday from 9 a.m. to 6 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. FAXES received after 4 p.m. will not be processed until the following business day. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

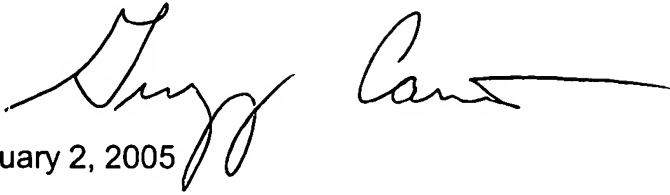
Gregg Cantelmo  
Primary Examiner  
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gc

A handwritten signature in black ink, appearing to read "Gregg Cant", with a long horizontal flourish extending to the right.

February 2, 2005